REPORT NO. 9

Cotton Fiber and Processing Test Results

CROP of 1977

Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
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This is the last report for the 1977 crop. These reports were published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.1/ These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS, Cotton Division, June 1977.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

Short staple cottons tested from the Southwest through January 6 are longer, more uniform and slightly finer than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Fiber strength is stronger than last season. Both Shirley Analyzer and picker and card waste are lower. Yarns spun from these samples are stronger and have a higher spinning potential number.

Average results for all medium staple cottons tested show fibers to be longer, more uniform and coarser than a year ago. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Southeastern medium staple samples tested to date show fiber test results to be very similar to the results of a year ago. Yarns spun from these samples are weaker with lower appearance grades. The average spinning potential is lower.

South Central medium staple samples show fibers to be longer, more uniform and coarser than a year earlier. Fiber strength is lower at zero gage strength tests. Shirley Analyzer is higher than a year ago. Picker and card waste is slightly lower. Yarns spun from these samples are weaker. Yarn imperfections are higher.

Medium staple samples tested from the Southwest are longer, more uniform and coarser than a year ago. Fiber strength is higher at zero gage strength tests. Both Shirley Analyzer and picker and card waste are lower than a year ago. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are fewer.

Medium staple samples tested from the West are slightly more uniform and coarser than last season. Fiber strength is higher than a year ago. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples have lower appearance grades. Imperfections are higher.

Average results for all long staple cottons tested show fibers to be more uniform and coarser than a year ago. Fiber strength is higher at zero gage, but lower at the 1/8" gage. Shirley Analyzer nonlint content is slightly higher, but picker and card waste is lower than last season. Yarns spun from these samples show lower yarn strength than a year ago.

Southeastern area long staple samples tested are slightly shorter and coarser than a year ago. Both Shirley Analyzer and picker and card waste are higher. Carded yarns spun are weaker than a year ago. Yarn imperfections are fewer. Spinning potential is lower.

No additional South Central long staple samples were processed during this cut-off period.

Long staple samples tested from the West show fibers to be shorter and coarser than a year ago. Fiber strength is higher at zero gage strength tests. Both Shirley Analyzer nonlint content and picker and card waste is lower. Carded yarns spun from these samples are weaker than a year ago. Appearance grades are higher. Yarn imperfections are fewer. The spinning potential is lower than last season.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through January 6, 1978 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results				
		Fibrograph		Mike fineness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appearance	Imperfections	
	No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	Yarn No.
									22s Carded Yarn			
Short Staple:												
Southwest												
1976	54	0.96	45	4.3	84	21	3.4	7.0	89	110	14	40
1977	94	0.98	46	4.2	88	22	3.2	5.4	99	109	13	49
Medium Staple:												
Southeast												
1976	48	1.08	45	4.6	85	23	3.2	6.3	106	98	20	57
1977	39	1.08	45	4.7	85	22	3.2	6.1	96	92	21	51
South Central												
1976	122	1.08	44	4.2	88	23	2.7	6.3	107	97	17	55
1977	123	1.11	45	4.6	86	23	3.5	6.0	104	95	22	57
Southwest												
1976	37	1.06	45	4.0	82	22	3.4	6.7	103	93	24	55
1977	48	1.08	46	4.2	86	22	3.2	5.7	100	90	19	54
West												
1976	70	1.11	45	4.2	89	25	2.2	5.8	119	89	19	66
1977	86	1.11	46	4.3	93	26	2.6	5.3	118	86	22	67
U.S. Average												
1976	277	1.08	45	4.2	87	24	2.8	6.2	110	95	19	58
1977	296	1.10	46	4.5	88	23	3.2	5.8	106	91	21	59
Significant difference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through January 6, 1978 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								
		Length		Mike	Strength		SA	P&C	Comber	Yarn Quality						
		Span	Unif		Zero gage	1/8" gage	Non-lint	Waste	Waste	Strength		Appearance		Imprfctns		SPY
										carded	combed	carded	combed	card	comb	
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.
										22s Carded & Combed Yarn						
Long Staple:																
Southeast																
1976	12	1.14	45	4.4	86	25	3.1	6.7	15.8	115	136	104	116	20	8	66
1977	12	1.13	45	4.8	88	23	3.5	7.1	*	99	*	102	*	18	*	58
South Central																
1976	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	13	10	57
1977	3	1.16	45	4.5	92	24	4.3	7.2	*	106	*	97	*	24	*	63
West																
1976	5	1.19	46	3.4	87	27	4.0	9.1	13.4	144	166	84	94	35	16	105
1977	9	1.18	46	4.0	92	27	3.5	6.2	*	130	*	89	*	27	*	93
U.S. Average																
1976	20	1.15	45	4.0	87	26	3.3	7.3	15.9	121	143	98	108	23	11	74
1977	24	1.15	46	4.5	90	25	3.6	6.8	*	112	*	96	*	22	*	72
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s) 2(50s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality.
2/ Minimum differences considered to be significant for comparisons in this table.
* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color Raw Stock		P & C	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel	Waste	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST	AREA																				
NORTHWEST TEXAS																					
BROWNFIELD							GSA71						80 PERCENT								
3 MID LT SP	32	31	0.94	47	4.3	87	21	6.4	2.8	2	4	6.1	286	94	7.0	5.5	120	100	30	15	43
BURKBURNETT							LANKART LX571						97 PERCENT								
3 SLM	41	33	1.02	46	4.5	89	22	7.0	3.9	2	3	6.8	288	97	6.9	5.7	120	110	29	19	49
HALE CENTER							GSA71						85 PERCENT								
3 SLM	41	33	0.98	44	3.3	77	21	7.8	3.6	1	3	5.7	299	99	8.0	6.3	130	100	27	11	55
LOCKNEY							MORCOT M78						80 PERCENT								
4 SLM LT SP	42	32	0.99	45	4.0	80	21	7.2	4.1	1	3	6.9	286	98	7.1	6.0	130	100	25	11	52
LOCKNEY							PAYMASTER 18						80 PERCENT								
3 SLM LT SP	42	31	0.96	46	4.0	76	19	7.3	3.2	2	4	6.6	269	87	7.8	6.0	120	90	31	17	45
LOOP							PAYMASTER 266						95 PERCENT								
2 SLM LT SP	42[1]	31	0.95	48	4.1	93	25	6.8	4.8	2	4	6.0	331	110	7.4	6.9	120	100	29	17	58
LORENZO							PAYMASTER 303						80 PERCENT								
4 SLM	41	32	1.04	43	4.1	82	21	7.4	3.0	1	3	5.4	285	94	7.3	5.8	130	100	17	12	52
PADUCAH							LANKART 57						70 PERCENT								
3 MID LT SP	32	32	0.97	45	4.4	84	21	7.5	2.6	1	4	5.0	281	92	7.3	6.2	120	100	22	10	47
PLAINS							GSA71						75 PERCENT								
2 SLM LT SP	42	32	1.02	47	4.2	84	22	7.7	3.2	2	4	5.5	314	99	8.0	6.0	130	110	23	15	59
TULIA							STRIPPER 31						80 PERCENT								
3 SLM LT SP	42	31	0.95	47	4.1	79	20	7.3	4.0	2	3	5.4	280	90	7.4	5.5	130	110	25	16	44
VERNON							LANKART 57						100 PERCENT								
3 MID LT SP	32	31	0.93	46	4.8	82	20	7.8	3.0	2	3	6.4	269	88	7.2	5.8	120	100	26	14	46
VERNON							LOCKETT 77						100 PERCENT								
3 SLM	41	33	0.99	44	4.2	92	21	6.0	3.1	1	2	5.5[2]	292	103	6.9	5.5	120	100	21	13	54
OKLAHOMA																					
MINCO							LANKART 611						75 PERCENT								
2 SLM LT SP	42	32	0.99	46	4.1	82	21	7.6	3.3	2	3	4.9	290	95	7.5	6.2	130	110	23	12	51

1/ Reduced from 32 because of grass
2/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns								
			Digital Fibrograph			Fiber Strength		Elongat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.	Mike	Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHEAST	AREA																				
ALABAMA																					
PRATTVILLE							COKER 417						100 PERCENT								
3	SLM LT SP	42	35	1.12	46	4.2	85	22	6.6	3.4	3	3	6.7	99	34	5.3	3.8	90	60	23	18	63
GEORGIA																					
BOSTWICK							DIXIE KING III						100 PERCENT								
3	SLM SP	43	34	1.04	46	4.7	84	22	7.0	4.5	5	4	7.0	92	28	5.3	3.6	80	70	22	17	51
SHELLMAN							DELTAPINE 16						80 PERCENT								
3	SLM LT SP	42	35	1.10	47	4.8	79	22	8.3	2.2	4	4	5.1	94	32	5.6	3.9	100	70	20	12	56
SOUTHWEST	AREA																				
NORTHWEST TEXAS																					
LUBBOCK							COKER 312						100 PERCENT *								
4	SLM	41	35	1.14	45	4.5	84	23	7.0	3.1	1	3	6.1 1/	101	34	5.8	4.0	80	60	26	17	57
WEST	AREA																				
ARIZONA																					
BOWIE							STONEVILLE 213						100 PERCENT *								
3	MID	31	34	1.10	45	4.2	80	22	8.0	2.4	0	3	5.3 1/	93	30	5.8	4.1	90	60	19	13	50
MARICOPA							DELTAPINE 16						100 PERCENT								
3	SLM	41	35	1.10	41	3.4	85	24	7.9	3.1	1	2	4.6 1/	98	35	5.3	3.9	80	60	29	24	51
MARICOPA							DELTAPINE 61						96 PERCENT								
3	SLM	41	34	1.12	44	4.8	85	23	7.4	3.4	1	3	5.6 1/	100	33	5.4	4.0	90	60	29	19	55
QUEEN CREEK							DELTAPINE 61						100 PERCENT								
3	MID	31	35	1.13	45	4.7	82	24	8.0	1.9	0	2	5.1	106	38	5.9	4.7	80	70	25	20	61
CALIFORNIA																					
HOLTVILLE							DELTAPINE 61						90 PERCENT								
2	MID	31	34	1.05	45	5.0	92	23	6.5	2.5	1	3	4.8	88	32	4.5	3.8	80	60	31	21	47

* 100% selected for tests, less than 100% in the area
1/ Cotton stuck to processing rolls

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph			Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C and Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten-tial
No	Grade Name & Code	Stple	2.5% span	Unif.	Mike	Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
WEST AREA																					
NEW MEXICO																					
HATCH							**ACALA 1517-75**														
3	SLM	41	36	1.16	44	3.5	93	29	7.2	5.2	0	2	7.3 1/	130	50	6.0	5.1	80	70	46	31	101
LAS CRUCES							**ACALA 1517-V**														
3	MID	31	36	1.19	45	3.9	91	26	6.7	1.9	0	2	5.7	131	50	5.5	5.0	80	70	30	24	103
WEST TEXAS																					
CLINT							**ACALA 1517-70**														
3	LM PLUS	50	36	1.16	44	3.9	95	28	6.2	5.4	1	2	7.2	128	48	6.0	4.6	90	70	21	18	94

99 PERCENT

100 PERCENT *

70 PERCENT

* 100% selected for tests, less than 100% in the area

1/ Cotton stuck to processing rolls